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Marshall Star, July 13, 2011 Edition

MARSHALL STAR

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Godspeed Atlantis! Well Done Shuttle Team!

Space Shuttle Atlantis successfully launched from Launch Pad 39A at the Kennedy Space Center at 10:29 a.m. CDT on July 8. STS-135 is the 33rd flight of Atlantis, the 37th shuttle mission to the space station, and the 135th and final mission of NASA's Space Shuttle Program.

Image right: Members of the media and employees gather near the countdown clock to see this rocket's red glare for the last time as space shuttle Atlantis roars off Launch Pad 39A at the Kennedy Space Center. (NASA/KSC)



Image left: Marshall team members join co-workers from other NASA field centers along the NASA Causeway to see the last launch of the Space Shuttle Program. (NASA/KSC)

Image right: After 30 years and 135 missions, residents and visitors to Florida's Space Coast watch the space shuttle "slip the surly bonds of Earth" one more time. On board space shuttle Atlantis are four experienced astronauts -- STS-135 Commander Chris Ferguson, Pilot Doug Hurley, and Mission Specialists Sandy Magnus and Rex Walheim. (NASA/KSC)



Image left: Residents and visitors to Florida's Space Coast crowd the new A. Max Brewer Bridge in Titusville to see space shuttle Atlantis soar into space for the last time. (NASA/KSC)

Image right: Marshall team members in Morris Auditorium in Building 4200 watch in excitement as the final countdown is announced for the launch of STS-135. Marshall team members can view an online photo gallery of launch activities at Marshall [here](#). (NASA/MSFC)



Marshall Silver Snoopy Award Recipients Honored for Significant Contributions to Human Spaceflight

By Amie Cotton



On June 30, STS-130 and STS-131 astronauts visited the Marshall Space Flight Center to present NASA Silver Snoopy Awards to deserving Marshall team members.

Since 1968, NASA's Space Flight Awareness Program has awarded the Silver Snoopy Award to outstanding civil service and contractor employees who have significantly contributed to the human spaceflight program. The prestigious honor, awarded only by astronauts, includes a silver pin flown onboard a shuttle mission with the famous "Peanuts" comic strip dog, Snoopy, clad in an astronaut suit. Honorees also receive a framed certificate and a congratulatory letter personally signed by astronauts.

Image right: Marshall team members receiving Silver Snoopy awards June 30 are, from front left, Phyllis A. Smith, Holly Odum Ryan, R. Leigh Martin, Eric Jackson, and Heather L. Miller. From second row left are Mark King, Tom Byrd, Robert B. Minor, James R. Emmenegger, John Rector, Corey Harrell, Gary Hudson, Frances Michelle Myers, and Michele Atkinson. From back left are Rolf D. Hofmann, STS-131 astronaut Dorothy M. Metcalf-Lindenburger, Andrew Schorr, Jonathan Mark Darden, Steve Glover, William Glen Jones, Martin Carson, STS-130 astronaut Terry Virts Jr., Matthew C. Smith and Charles Greg Steele. Not pictured is Thomas David Woods. (NASA/MSFC)



STS-131 astronaut Dorothy M. Metcalf-Lindenburger and STS-130 astronaut Terry W. Virts Jr. presented the awards at a ceremony at the Marshall Education Research Center. Marshall Deputy Director Gene Goldman and Herb Shivers, acting director of Marshall's Safety & Mission Assurance Directorate, joined astronauts in the presentation.

Honorees were Michele Atkinson, Shuttle Propulsion Office; Tom Byrd, Ares Projects Office; Martin Carson, Shuttle Propulsion Office; Jonathan Mark Darden, Shuttle Propulsion Office; James R. Emmenegger, Engineering Directorate; Steve Glover, Shuttle Propulsion Office; Corey Harrell, Shuttle Propulsion Office; Rolf D. Hofmann, Engineering Directorate; Gary Hudson, Michoud Assembly Facility Office; Eric Jackson, Pratt & Whitney Rocketdyne; William Glen Jones, Engineering Directorate; Mark King, Ares Projects Office; R. Leigh Martin, United Space Alliance; Heather L. Miller, Pratt & Whitney Rocketdyne; Robert B. Minor, Engineering Directorate; Frances Michelle Myers, Pratt & Whitney Rocketdyne; John Rector, Shuttle Propulsion Office; Holly Odum Ryan, Pratt & Whitney Rocketdyne; Andy Schorr, Ares Projects Office; Matthew C. Smith, Shuttle Propulsion Office; Phyllis A. Smith, Engineering Directorate; Charles Greg Steele, SAIC; and Thomas David Wood, Engineering Directorate.

Cotton, an AI Signal Research Inc. employee and the Marshall Star editor, supports the Office of Strategic Analysis and Communications.

Atlantis Docks With Space Station; Landing Scheduled July 21

By Sandra Martel



Space shuttle Commander Chris Ferguson and his three crewmates arrived at the International Space Station July 10 after launching from the



Kennedy Space Center July 8 at 10:29 a.m. CDT. STS-135 is the final mission of NASA's Space Shuttle Program.

Image left: Expedition 28 Flight Engineers Ron Garan, top, and Mike Fossum exit the International Space Station's Quest airlock to begin their spacewalk. (NASA TV)

Ferguson was notified July 11 that the Mission Management Team has extended the STS-135 mission by one day. Space shuttle Atlantis' first landing opportunity at Kennedy is July 21 at 4:58 a.m. CDT.

On July 11, astronauts Doug Hurley and Sandy Magnus grabbed the Raffaello multi-purpose logistics module, lifted it out of shuttle Atlantis' cargo bay and installed it on the Earth-facing port of the space station's Harmony node.

The 21-foot-long, 15-foot-diameter Raffaello, managed by engineers at the Marshall Space Flight Center, is packed with 9,403 pounds of spare parts, spare equipment and other supplies -- including 2,677 pounds of food that will sustain space station operations for a year.

The STS-135 crew consists of Ferguson, Hurley, Magnus and Mission Specialist Rex Walheim.

"The shuttle's always going to be a reflection to what a great nation can do when it dares to be bold and commits to follow through," Ferguson said shortly before liftoff. "We're not ending the journey today; we're completing a chapter of a journey that will never end."

The mission also includes flying the Robotic Refueling Mission, an experiment designed to demonstrate and test the tools, technologies and techniques needed for robotic refueling of satellites in space, even satellites not designed for servicing. The crew also will return an ammonia pump that recently failed on the space station. Engineers want to understand why the pump failed and improve designs for future spacecraft.

For more information about the mission, visit http://www.nasa.gov/mission_pages/shuttle/main/index.html.

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Natural Disasters and NASA: An Interview With Marshall Scientist Michael Goodman

By Michael Carlowicz

Though our planet has long reminded us of its dynamic, unpredictable and forceful nature, the past 18 months have been particularly painful for human civilization. It seems like one global disaster has followed another, with dire consequences for millions of people: Earthquakes in Haiti, Chile and New Zealand. Iceland's Eyjafjallajökull volcano. The Gulf Coast oil spill. Mudslides and floods in Sri Lanka, Bolivia, Brazil and Thailand. The historic earthquake and tsunami in Japan. And, most recently, the record-setting tornado outbreak in the Southern United States and flooding along the Mississippi River.

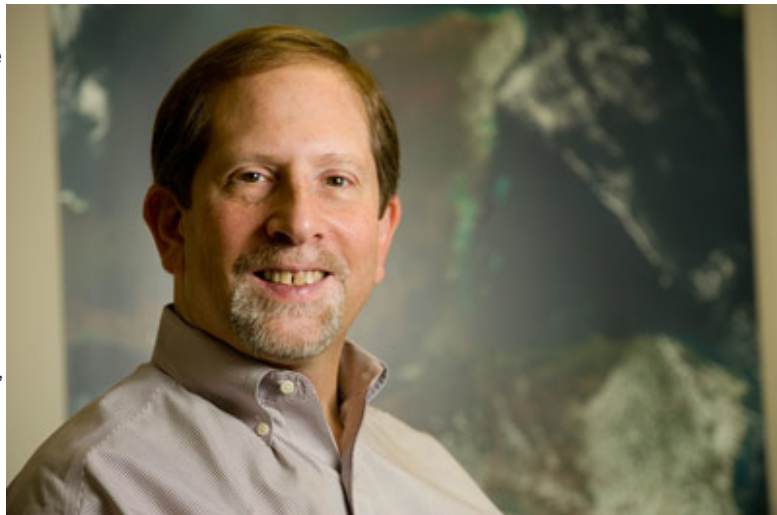


Image right: Michael Goodman (NASA)

Michael Goodman, an atmospheric scientist at the Marshall Space Flight Center, has had a busy and sometimes difficult 18 months. He serves as NASA's manager for Natural Disasters Applications. Working with engineers, basic researchers and applied scientists, he helps assemble and coordinate the agency's response to natural disasters and hazards. We asked Goodman to tell us more about this behind-the-scenes work at NASA. Read the interview [here](#).

Carlowicz is the chief editor at the NASA Earth Observatory at Goddard Space Flight Center.

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Marshall Center Team's Greeting Awakens STS-135 Crew



A special wake-up message, recorded June 24 by Marshall Space Flight Center team members, was played for the crew of [STS-135](#) on July 8 -- the first morning after space shuttle Atlantis launched them on the final mission of the shuttle program. Marshall workers gathered in Morris Auditorium in Building 4200 to record the message, which the [Astronaut Office](#) at NASA's Johnson Space Center paired with the song "Viva La Vida" by Coldplay to wake the astronauts. Watch the astronauts' wakeup call [here](#).

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Marshall Team Members Invited to Shuttle Pride Social July 21

On July 21, the Marshall Exchange invites all Marshall team members to view the final landing of the Space Shuttle Program, STS-135. Because the currently scheduled landing time of 4:58 a.m. CST may change, the Exchange is planning to conduct either an early morning live event, in Morris Auditorium in Building 4200; or a later-morning taped event, with additional live coverage from the Johnson Space Center and the Kennedy Space Center, in the Activities Building 4316. A decision will be made as soon as the landing time is finalized and announcements will be issued on Heads Up and ExplorNet indicating time and place of this special event.

Audio and video feeds from the Johnson Space Center and the Kennedy Space Center will feature astronauts narrating the landing as well as special tributes offered from astronauts and many special guests.

To help ease the early morning start, Bojangles is catering the event and will bring plenty of their cocktail-sized sausage biscuits, country ham biscuits, Cajun chicken biscuits, blueberry glazed biscuits, cinnamon glazed biscuits, orange juice and coffee -- courtesy of the Marshall Exchange.

In addition, 1:200 space shuttle Atlantis models will be given away as door prizes leading up to a grand prize 1:100 Atlantis full shuttle stack model, signed by the entire crew of STS-135! You must be present to win any of the prizes, and must register to win the model signed by the crew. Plan to leave



Marshall team members attending the Shuttle Pride Social July 21 can register to win a 1:100 Atlantis full shuttle stack

home a little earlier July 21, come enjoy breakfast and watch the final landing event and tributes with co-workers.

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model, signed by the entire crew of SLS-135. (NASA)

Space Camp 'Tweeters' Visit Marshall



A group of 16 [U.S. Space Camp](#) Twitter followers tour Environmental Control and Life Support Systems facilities at the Marshall Space Flight Center, where workers are developing new ways to recycle air and water in space to reduce mission costs. Participants in the July 7 "Tweetup" toured several Marshall locations, including the Payload Operation Center, where they learned about Marshall's role in space station science; the East Test Area, where they explored the historic test stands; and Building 4755, where they learned about Marshall's role in developing innovative friction stir welding techniques to forge durable space hardware. The group, hosted by the U.S. Space & Rocket Center in Huntsville, tweeted at each tour stop about what they

were seeing and learning. Follow the Marshall Center on Twitter [here](#). Follow Space Camp [here](#). (MSFC/Ben Johnson)

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<http://www.nasa.gov/centers/marshall/about/star/index.html>